SEATTLE CITY COUNCIL

SR 520 Project Enhancement

Draft Report

Executive Summary

Nelson\Nygaard Consulting Associates
1402 Third Avenue, Suite 1200
Seattle, WA 98101

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consulting associates

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In January 2010, the Washington State Department of Transportation (WSDOT) and the Federal Highway Administration (FHWA) issued a Supplemental Draft Environmental Impact Statement (SDEIS) for the *SR 520 I-5 to Medina: Bridge Replacement and HOV Project*. This document builds on the work of the 2006 Draft Environmental Impact Statement which covered the SR 520 corridor from 108th Avenue NE in Bellevue to I-5 in Seattle. Since that time the project has been broken into four separate projects for environmental analysis. The project portion that is the focus of this report covers the Westside from I-5 to Medina. The other three projects are: the *SR 520 Medina to SR 202: Eastside Transit and HOV Project, the SR 520 Pontoon Construction Project,* and *the Lake Washington Congestion Management Project.* The SDEIS assessed the impacts of several Westside design options associated with a six-lane alternative for the corridor. A State Legislative Working Group has expressed support for design Option A+. Remaining is for WSDOT and the environmental co-lead, FHWA , to declare a "preferred alternative and design option" for the Westside. The preferred alternative will be selected following the public comment period for the SDEIS which ends on April 15, 2010.

In a letter to the Governor and State Legislative Leaders in January of 2010, the Seattle City Council concluded that none of the major design options assembled and evaluated in the SDEIS adequately meets the needs, priorities, goals, and objectives the City Council has established for the project. The Seattle City Council hired Nelson\Nygaard to support a detailed assessment of Westside design, policy and program options for the SR 520 I-5 to Medina: Bridge Replacement and HOV Project. During February and March 2010, we have conducted this review using an iterative process, and working in close coordination with City Council, City Council staff, the Seattle Department of Transportation (SDOT), WSDOT, Sound Transit, King County Metro, and University of Washington. This report synthesizes the information gathered and analysis conducted and is intended to provide information and tools to help the Seattle City Council understand key issues in the corridor and select and recommend preferred design options to WSDOT prior to April 15.

City Council Goals, Assumed Guidelines and Desired Outcomes

City Council resolutions passed in 2005, 2007, and 2009, provide guidance for resolving design, policy and mitigation issues that the City desires to be addressed in a preferred alternative[1]. These resolutions state the Council's intent to improve safety and reliability, increase mobility for people and goods, enhance the livability, health and environment of Seattle neighborhoods, improve the pedestrian environment, preserve and improve the parklands of the Washington Park Arboretum and the public shoreline, and to reduce greenhouse gas emissions in the SR 520 corridor. In addressing these key policy and design issues the Council, and this report, assume the following:

- Between Medina and I-5, SR 520 will have a total of six travel lanes, including two general purpose lanes and one transit/HOV lane in each direction[2].

[1] Resolution No.30777 (June 30, 2005), Resolution No.30974 (April 9, 2007), and Resolution No.31109 (January 12, 2009).
[2] As required in ESSB 6099 (2007), codified as RCW 47.01.405

- The total budget for corridor improvements including mitigation will not exceed $4.65 billion.
- No additional environmental impact assessment including publication of any additional SDEIS will be necessary.
- The impacts of new design options evaluated in this refinement process will be within the range of the impacts identified in either the DEIS or SDEIS (with possible variations or modifications).

However, if design elements arise which may differ from one, or more, of these assumptions while providing significant benefit for the City, the Council wants to consider those items within the context of understanding it may not meet all the assumed guidelines.

Early in the process, the Council identified specific outcomes they wished to evaluate in considering alternatives for the West side design. These outcomes include:

Improve Transit -- Maximize transit usage and connectivity, and prioritize transit through the area by improving speed, reliability, and expandability of local and regional transit service.

Improve the Pedestrian Environment -- Increase pedestrian access, mobility, comfort, and security, and provide efficient and logical connections to transit and neighborhood destinations.

Improve the Bicycling Environment -- Increase bicycle access, mobility, comfort, and security, and provide efficient and logical connections to and through the neighborhood.

Improve the Neighborhood Environment -- Improve the physical environment for the health and benefit of neighborhood residents and minimize the impacts of the SR 520 Project on adjacent Seattle neighborhoods.

Improve Montlake Traffic Operations-- Facilitate acceptable peak and off-peak local traffic operations for all users.

Improve the Arboretum -- Minimize impacts to the Arboretum in terms of vehicle volumes and speeds, improve access for visitors, and improve the overall environment of the park.

Study Process, Evaluation and Outcomes

These factors were combined into a comprehensive, but qualitative, evaluation process used to assess a long list of brainstormed ideas (see report Appendices) that were directed to resolve particular issues within the study area. Each of the ideas (or design and program elements) was evaluated using criteria developed for this work effort. From this analysis there were two findings. 1) There are significant trade-offs between many alternative design elements that need to be better understood. Many of those design and operational elements are *pivotal* in whether the project meets Council's goals; and 2) Some of the elements, when combined into a package could produce either a highly emphasized

improvement focused on one element of the Council's desired outcomes, or a more balanced improvement across many of the desired outcomes.

Pivotal design and operational elements or "Pivotal Issues" are identified as:

1. Second Bridge over Montlake Cut
2. Lake Washington Boulevard Ramps
3. Montlake Interchange Design
4. Portage Bay Viaduct Width and Operation
5. Montlake Freeway Flyer Stop
6. Montlake Triangle
7. Noise Reduction
8. Height of the Floating Bridge Deck
9. Width of the SR 520 Corridor

Within the body of the report each of these issues is dissected in detail, alternatives are described and compared against Option A+, and the tradeoffs of the alternative are discussed. These are not intended to be recommendations, but decision-making tools for the Council.

Two "balanced" packages of system level improvements made of design and operational elements discussed in the pivotal issues were designed to achieve Council desired outcomes while attempting to maintain Council's assumptions. The two balanced packages are evaluated against three other packages, each designed to "emphasize" only one element of the desired outcomes for the purpose of highlighting the trade-offs between desired outcomes.

The emphasis packages and balanced packages are also compared to the "no-build" alternative, the current 6-Lane Alternative Design Option A+, and a design option from the original DEIS, the Pacific Interchange. As with the pivotal issues the intent of these system level packages is to point out trade-offs and improvements to Option A+ while assessing the ability of a package to stay within the Council's assumptions.

Study Findings and Recommendations

The central purpose of this report is to provide Council with the necessary tools to make judgments about various elements in the project and the resulting trade-offs. However in the conduct of the study Nelson\Nygaard made findings and was able to form a few overall recommendations to be included in the project either as comment to the SDEIS or as efforts independent of the WSDOT *SR 520 I-5 to Medina: Bridge Replacement and HOV Project.* Below is a summary of those findings and recommendations. More detail on these recommendations is contained in the body of the report.

1.) The Arboretum is a regional treasure and regardless of which SR 520 ramp and interchange alternative is constructed, Lake Washington Boulevard will continue to attract more traffic than compatible with the park. This should be addressed by the

City of Seattle through implementation of a comprehensive traffic management plan for the Arboretum.

2.) It is recommended that the Council request the Governor and Legislature work together to establish a statute that requires mandatory action to either raise the occupancy standard or increase the toll on HOV's, or both, so that the corridor continuously meets the state established standard of performance for HOV lanes.

3.) The design of the regional pedestrian and bicycle path in the vicinity of the Montlake Interchange needs a refined design that meets City of Seattle standards for regional bicycle and pedestrian facilities.

4.) An urban intersection design form, as opposed to a freeway interchange design form, should be employed in the re-design of the Montlake Interchange. The purpose is to reduce the footprint of the interchange and improve the environment for pedestrians and bicyclists while maintaining traffic flow. There is more detail on how this recommendation manifests itself in the body of the report.

5.) A legislatively established workgroup (Contained in ESSB 6392 passed by the legislature in the 2010 Regular Session and signed by Governor Gregoire on March 30, 2010) represents an opportunity for the City to influence the outcome in the Montlake Triangle; a vital transit, pedestrian, and bicycle connection area. It is recommended that Council and/or Council staff be deeply involved in this work group effort. This work can be undertaken separately from the SR 520 project to reduce the risk of delay for the SR 520 project while ensuring Sound Transit's Husky Stadium Station Project is not delayed.

6.) The Portage Bay Viaduct is a candidate for deployment of a managed shoulder in place of the 7th auxiliary lane between the westbound Montlake on-ramp and the northbound I-5 ramp. If the Council does not elect to pursue an even narrower cross-section, e.g. a four lanes cross section, for the viaduct, the managed shoulder could be employed as a minimum step to a narrower cross-section.

7.) Construction that expands the current number of vehicle lanes, general purpose or HOV, between the West Highrise and I-5 must be accomplished with the best current thinking possible to understand the future transportation needs in the SR 520 corridor. This portion of the corridor is sufficiently sensitive, environmentally and politically, that the probability is there will be but one opportunity to "get it right" in terms of construction for the next 75 to 100 years.

8.) Option A+ provides transit priority on Montlake Boulevard between Pacific Street and SR 520 by improving general traffic operations. If Council elects to endorse a second bascule bridge, a natural addition to that decision would be inclusion of HOV lanes on Montlake Boulevard from Pacific Street to Montlake Place to provide transit specific priority to regional and local transit. This addition is a complex undertaking as it envisions using currently available right of way. There are many questions outstanding about the specific details of the design that need further investigation to ensure the HOV lanes deliver the intended benefit to local and regional transit.

9.) In a heavy traffic environment where there are also heavy volumes of pedestrians, every detail matters to make the places feel more "human scale." Lighting, signage, proper use of landscaping, well marked pedestrian crossings, non-circuitous pedestrian routes to cross streets are details that will make a substantial difference in the comfort level of pedestrians. These details should be pursued throughout the boundaries of the project where there is an interface point between vehicular traffic and pedestrians to encourage pedestrian activity and present walking as a real transportation option.

10.) The scope and time allotted for this report has not allowed full exploration of all concepts, options, and alternatives. It is likely and necessary that many elements undergo further analysis and refinement to fully understand the impacts and implications of the various design changes or operational corridor management decisions. This refinement process should be part of the follow-on work with other project stakeholders including WSDOT, King County Metro, Sound Transit and University of Washington.